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#### **PCT**

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(54) Title: PREVENTION AND TREATMENT OF AMYLOIDOGENIC DISEASE

(57) Abstract: The invention provides improved agents and methods for treatment of diseases associated with amyloid deposits of  $A\beta$  in the brain of a patient. Such methods entail administering agents that induce a beneficial immunogenic response against the amyloid deposit. The methods are useful for prophylactic and therapeutic treatment of Alzheimer's disease. Preferred agents including N-terminal fragments of  $A\beta$  and antibodies binding to the same.

### INTERNATIONAL SEARCH REPORT

Internal J Application No PCT/US 00/14810

		701703 00/14810		
C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT  Category * Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No				
	appropriate, of the recording passages	ricieyani to Ciam No.		
Α .	VAN GOOL W A ET AL: "Concentrations of amyloid-beta protein in cerebrospinal fluid increase with age in patients free from neurodegenerative disease." NEUROSCIENCE LETTERS, vol. 172, no. 1-2, 1994, pages 122-124, XP000961282 ISSN: 0304-3940 the whole document	1-108		
Ρ,Χ	SCHENK D ET AL: "Immunization with amyloid-beta attenuates Alzheimer -disease-like pathology in the PDAPP mouse 'see comments!."  NATURE, (1999 JUL 8) 400 (6740) 173-7.,  XP002154168 the whole document	48-86		
Ρ,Χ	WO 99 27944 A (SCHENK DALE B ;ATHENA NEUROSCIENCES INC (US)) 10 June 1999 (1999-06-10) examples claims	1-108		

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

Interna al Application No PCT/US 00/14810

Patent document cited in search report		Publication date		atent family member(s)	Publication date
EP 0613007	A	31-08-1994	CA JP	2115900 A 6294798 A	23-08-1994 21-10-1994
WO 9511994	 A	04-05-1995	US	5604102 A	18-02-1997
			AU	8079894 A	22-05-1995
			AU	702293 B	18-02-1999
			AU	8080994 A	22-05-1995
			CA	2174429 A	04-05-1995
			CA	2174632 A	04-05-1995
			EP	0736106 A	09-10-1996
			EP	0730643 A	11-09-1996
			EP	1001019 A	17-05-2000
			JP	9508196 T	19-08-1997
			JP	9507746 T	12-08-1997
			WO	9511968 A	04-05-1995
			US	5612486 A	18-03-1997
			ÜS	5850003 A	15-12-1998
WO 9927944		10-06-1999	BR	9815357 A	24-10-2000
	•		EP	1033996 A	13-09-2000
			NO	20002784 A	31-07-2000
			AU	1706199 A	16-06-1999

#### INTERNATIONAL SEARCH REPORT

**Application No** PCT/US 00/14810

a. classification of subject matter IPC 7 A61K39/395 A61K38/17

A61K48/00

A61P25/28

A61K39/39 A61K39/00 //C07K16/18,C07K14/47

G01N33/68

According to International Patent Classification (IPC) or to both national classification and IPC

#### **B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols) IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

STRAND, MEDLINE, LIFESCIENCES, CANCERLIT, AIDSLINE, CHEM ABS Data, EMBASE, SCISEARCH, WPI Data, EPO-Internal, PAJ, BIOSIS

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 613 007 A (LILLY CO ELI ;ATHENA NEUROSCIENCES INC (US)) 31 August 1994 (1994-08-31) column 1, line 46 -column 2, line 4 column 5, line 27 -column 8, line 18 claims	1-52, 87-108
X	WO 95 11994 A (LILLY CO ELI ;ATHENA NEUROSCIENCES INC (US)) 4 May 1995 (1995-05-04) page 1, line 7-13 page 5, line 31 -page 6, line 18 page 18, line 23 -page 19, line 30 claims	100-108

ı	XI	Further documents are listed in the	continuation of box C.
- 1			

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- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled
- \*&\* document member of the same patent family

Date of the actual completion of the international search Date of mailing of the international search report

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